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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,802	09/18/2003	Darrin W. Kabel	702.256	6140

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EXAMINER

GIBSON, ERIC M

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/665,802	KABEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eric M. Gibson	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-10,12-21,23-33,35-41 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10,12-21,23-33,35-41 and 43-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/14/2006</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-4, 6-10, 12-15, 20, 21, 23-41, and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fruchterman et al. (US005470233A) in view of Tognazzini (US005872526A).

a. Per claim 1, Fruchterman teaches a method including calculating a course between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34), and providing an alert signal when the course contains user identified criteria (column 17, lines 34-37 and lines 47-49). Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on heading. Tognazzini teaches a GPS collision

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avoidance system that uses GPS data to determine heading and calculates a predetermined area based on heading (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use heading information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

b. Per claim 2, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

c. Per claim 3, Fruchterman teaches identifying points of interests that are not necessarily waypoints (column 8, lines 3-4).

d. Per claim 4, Fruchterman teaches recalculating the course to avoid the area (column 17, lines 47-48).

e. Per claim 6, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

f. Per claim 7, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

g. Per claim 8, Fruchterman teaches a method of calculating a course between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34), and calculating the course to avoid the user identified criteria (column 17, lines 34-37 and lines 47-49). Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-

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49). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on heading. Tognazzini teaches a GPS collision avoidance system that uses GPS data to determine heading and calculates a predetermined area based on heading (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use heading information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

h. Per claim 9, Fruchterman teaches recalculating the course to avoid the area (column 17, lines 47-48).

i. Per claim 10, Fruchterman teaches identifying points of interests that are not necessarily waypoints (column 8, lines 3-4).

j. Per claim 12, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

k. Per claim 13, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

l. Per claim 14, Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34) around a predetermined area (column 19, lines 60-65). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on heading. Tognazzini teaches a GPS collision avoidance system that uses GPS data to determine heading and calculates a

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predetermined area based on heading (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use heading information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

m. Per claim 15, Fruchterman teaches providing an alert signal when the area contains user identified criteria (column 17, lines 34-37 and lines 47-49).

n. Per claim 20, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

o. Per claim 21, Fruchterman teaches a method including calculating a course between two or more waypoints (column 4, lines 47-54), using GPS to determine present location coordinates (column 7, lines 9-11) which includes a heading, analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34) including heading information (see for example column 9, line 17), and providing an alert signal when the course contains user identified criteria (column 17, lines 34-37 and lines 47-49), wherein GPS heading data is a functional equivalent of an electronic compass signal, in that it provides a heading signal from prior logged positions. More accurate heading signals can be determined from other on-board sensors that are commonly included with GPS navigation equipment, such as compasses (see for example Maruyam (US005398188A)).

p. Per claim 23, Fruchterman teaches recording a track log (column 20, lines 15-31).

q. Per claim 24, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

r. Per claim 25, Fruchterman teaches verbal or Braille display to output the route to the user (column 3, lines 20-25).

s. Per claim 26, Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49).

t. Per claim 27, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

u. Per claim 28, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

v. Per claim 29, Fruchterman teaches a computer readable medium having a set of computer readable instructions (column 17, lines 53-57) for causing a device to perform a method including calculating a course between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34), and providing an alert signal when the course contains user identified criteria (column 17, lines 34-37 and lines 47-49). Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on speed. Tognazzini teaches a GPS collision avoidance system that

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uses GPS data to determine velocity and calculates a predetermined area based on a velocity vector (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use velocity information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

w. Per claims 30 and 31, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

x. Per claim 32, Fruchterman teaches recalculating the course to avoid the area (column 17, lines 47-48).

y. Per claim 33, Fruchterman teaches identifying points of interests that are not necessarily waypoints (column 8, lines 3-4).

z. Per claim 35, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

aa. Per claim 36, Fruchterman teaches that the area of exclusion can be any area relevant to a blind pedestrian and gives an example of a body of water (column 5, lines 1-10).

bb. Per claim 37, Fruchterman teaches a navigation device including a processor for calculating a course between two or more waypoints (column 4, lines 47-54), analyzing cartographic data for the course for user identified criteria to avoid (column 17, lines 24-34), and calculating the course to avoid the user identified criteria (column 17, lines 34-37 and lines 47-49). Fruchterman further teaches voice instructions (column 6, line 62 – column 7, line 4). However, the invention taught by



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Fruchterman discloses a speech synthesizer, rather than the wireless transmission of voice data as claimed. Transmitting voice data instructions in a navigation system would have been well known to one of ordinary skill in the art at the time of the invention. Furthermore, because voice instructions are the “most fundamental” part of the Fruchterman system (see column 7, lines 1-2), it would have been obvious to one of ordinary skill in the art to modify the system of Fruchterman to ensure that voice data could be received from other sources than just the voice synthesizer.

cc. Per claim 38, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

dd. Per claim 39, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

ee. Per claim 40, Fruchterman teaches calculating the course to avoid the area (column 17, lines 47-48).

ff. Per claim 41, Fruchterman teaches identifying points of interests that are not necessarily waypoints (column 8, lines 3-4).

gg. Per claim 43, the FRS frequency is approved by the FCC to provide “traveler assistance” (see 47 CFR § 95.193(a)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a legally approved frequency to transmit the information.

hh. Per claim 44, Fruchterman teaches a navigation device including a processor, a GPS receiver, and a memory to determine present location coordinates (column 7, lines 9-11) and to analyze cartographic data for user identified criteria to

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avoid (column 17, lines 24-34). Fruchterman teaches using GPS to determine present location coordinates (column 7, lines 9-11) and a predetermined area around the area of exclusion (column 17, lines 24-49). Fruchterman does not teach a predetermined area around a user with a predetermined shaped based on speed and heading.

Tognazzini teaches a GPS collision avoidance system that uses GPS data to determine velocity and heading to calculate a predetermined area based on a heading and a velocity vector (column 7-8). It would have been obvious to one of ordinary skill in the art, at the time of invention, to use velocity and heading information derived from the GPS data received in the Fruchterman invention, to calculate an area around the user, as taught by Tognazzini, in order to create a warning zone around the user.

ii. Per claim 45, Fruchterman teaches warning the user when approaching the area of exclusion (column 17, lines 34-37).

jj. Per claim 46, Fruchterman teaches recording a track log (column 20, lines 15-31).

2. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Fruchterman and Tognazzini in view of Kronfeld et al.

(US006577947B1).

a. Per claims 16-19, the combination teaches the invention as explained in the rejection of claim 14. Fruchterman does not teach using predetermined areas with radii extending along the predicted heading of the traveling direction. However, estimation of future position may take many different forms that are well known in the art. One alternative way to demarcate a future path is to determine an envelope or

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zone around the user. Kronfeld is exemplary of this teaching. In column 15, line 35 – column 16, line 17, Kronfeld teaches methods of representing a traveling vehicle for the purposes of determining intersection with a target area to be avoided. It would have been obvious to one of ordinary skill in the art, at the time of invention, to use an alternative method of predicting future position, such as radii extending along the path, as is well known and used in the art, as exemplified by Kronfeld.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-4,6-10,12-21,23-33, 35-41, and 43-46 have been considered but are moot in view of the new ground(s) of rejection.

a. Specifically, Tognazzini has been shown to teach calculating the area based on speed and heading as described in the above rejections.

b. The Examiner also disagrees with the Applicant's statement that the heading derived from the GPS data is not equivalent to a heading derived from an electronic compass. While the heading derived from the electronic compass may be more accurate and current, a heading derived from GPS data is possible and is an equivalent. Furthermore, using an electronic compass in conjunction with a GPS receiver and navigation system for more accurate heading information is commonplace in the art and would have been known to one of ordinary skill in the art at the time of the invention (see for example Maruyama (US005398188A)). The prior art supports the Examiner's statement that heading information can be derived from GPS data (see for example the Tognazzini reference, column 7, lines 33-47).

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c. Finally, as to the Applicant's assertion regarding the teaching of voice data and commands, the Examiner has already taken the position that communication by voice, including bi-directionally, is known in the art and would have been obvious to one of ordinary skill in the art. This is even more obvious for use in the system of Fruchterman, which is intended for blind pedestrians. If the Applicant is asserting a pioneering use of voice commands or does not know that voice controls have been used before, then the Examiner will provide proof that the use was well known in the art at the time of the invention. However, in order to make efficient use of USPTO resources, the Examiner feels that judicial notice of the obviousness and widespread use of voice commands should suffice as proof.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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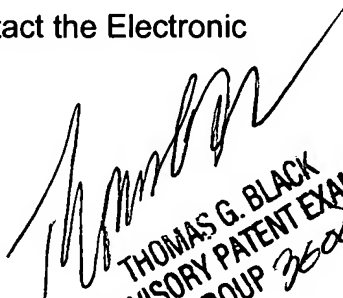
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Gibson whose telephone number is (571) 272-6960. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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